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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/581,161

05/31/2006

Nobuo Aoki

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08/25/2009

ARTHUR G. SCHAIER
CARMODY & TORRANCE LLP
50 LEAVENWORTH STREET
P.O. BOX 1110
WATERBURY, CT 06721

EXAMINER

LETTMAN, BRYAN MATTHEW

ART UNIT

PAPER NUMBER

3746

MAIL DATE

DELIVERY MODE

08/25/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/581,161	Applicant(s) AOKI ET AL.	
	Examiner Bryan Lettman	Art Unit 3746	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 May 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>20060531, 20070911</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character “90a” has been used to designate both “a restricting means” and “a roller portion”.

Figure 18 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g).

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: 29b, 31a and 92a.

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: 4, 12, 14, 15, 15a, 15b, 19, 27c, 27d, 30c, 35, 54a, 55, 59, 60a, 60b, 62, 63, 64, 66, 68, 71, 72, 78, 100, 107, 116, 151, 153, 159, 160, 401, 403, 405, 408, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 464, 465 and 466.

Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37

Art Unit: 3746

CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

The disclosure is objected to because of the following informalities:

The specification contains reference numerals not shown in the drawings and the drawings contain reference numerals not mentioned in the specification, as detailed above.

The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

In line 10 of paragraph [0026], the phrase "these plunger are elevated" needs revision. The examiner suggests "the plungers are elevated."

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 3 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Japanese Patent Publication 05-071441 to Atsushi.

Referring to claim 1, Atsushi discloses a pump wherein:

a plurality of accommodating portions (8a) for arranging the plurality of plunger barrels (2) in parallel to each other is formed in the inside of the pump housing (8) and an inter-cylinder connecting portion (22) which allows lubricant or lubricating fuel to pass therethrough is provided between the plurality of accommodating portions (8a) (shown in Fig. 1).

Referring to claim 2, Atsushi further discloses a pump wherein:

the inter-cylinder connecting portion (22) is arranged at a position higher than an elevated position of the tappet structural body (1) (shown in Fig. 1).

Referring to claim 3, Atsushi further discloses a pump wherein:

the inter-cylinder connecting portion (22) is arranged substantially perpendicular with respect to the arranging direction of the plurality of plunger barrels (2) (shown in Fig. 1).

Referring to claim 6, Atsushi further discloses a pump wherein:

a communicating portion (32) which allows lubricant to pass therethrough is formed in the tappet structural body (1).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent Publication 05-071441 to Atsushi.

Referring to claim 4, Atsushi teaches all the limitations of claim 1, as detailed above, but is silent as to the dimensions of the pump. It would be obvious to one of skill in the art, at the time of invention, to size the pump with a cross-sectional area of the inter-cylinder connecting portion set to a value which falls within a range of 10 to 350 mm² so that the connecting portion is large enough to allow sufficient flow area, but not so large as to make the pump unsuitable as a fuel supply pump.

Referring to claim 7, Atsushi teaches all the limitations of claim 1, as detailed above, but is silent as to the flow rate and pressure of the pump. It would be obvious to one of skill in the art, at the time of invention, to size the pump for a flow rate per unit time of 500 to 1500 liter/hour, as part of a booster type accumulator fuel injection device which increases a pressure of the fuel to 50 MPa or more so that the pump may be used in a variety of different fuel supply systems.

Claims 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent Publication 05-071441 to Atsushi in view of U. S. Patent 6,216,583 to Klinger.

Atsushi teaches all the limitations of claim 1, as detailed above, but does not teach a valve portion in the connecting portion. Klinger teaches a pump wherein:

a valve portion (55) is provided to a middle portion of an inter-cylinder connecting portion (54, 56).

It would be obvious to one of skill in the art, at the time of invention, to modify the pump taught by Atsushi with the valve portion taught by Klinger in order to provide a means for throttling the flow therethrough.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bryan Lettman whose telephone number is (571) 270-7860. The examiner can normally be reached on Monday - Thursday between 9:00 am and 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Devon Kramer can be reached on (571) 272-7118. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/B. L./
Examiner, Art Unit 3746

/Devon C Kramer/
Supervisory Patent Examiner, Art
Unit 3746

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